Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. - 55. (Cancelled)

56. (Currently Amended) An illumination system for wavelengths ≤ 193 nm based on radiation from a secondary light source, comprising:

a light source having an illumination in a predetermined surface;

~~a device for the production of a secondary light source;~~

a mirror or lens device having a mirror or lens, which is organized into a raster element;

an optical element, which is arranged between said mirror or lens device and a reticule plane, whereby said optical element images said secondary light source in an exit pupil of the illumination system, wherein

said raster element of said mirror or lens is shaped and arranged in such a way that an image of said raster element covers a major portion of said reticule plane, and wherein said exit pupil is illuminated, and said exit pupil is defined by an aperture and a filling ratio.

57. (Previously Presented) The illumination system according to claim 56, wherein said optical element comprises at least one field mirror or at least one field lens.

58. (Previously Presented) The illumination system according to claim 57, wherein said optical element is at most two field mirrors or field lenses.

59. (Previously Presented) The illumination system according to claim 56, wherein said mirror or lens device comprises a mirror or a lens with a raster element formed as field honeycombs.

60. (Previously Presented) The illumination system according to claim 59, wherein said field honeycombs in their aspect ratio essentially correspond to that of a field to be illuminated in said reticule plane.

61. (Previously Presented) The illumination system according to claim 59, wherein said mirror or lens with said raster element produces said secondary light source.

62. (Previously Presented) The illumination system according to claim 56, further comprising a collector that collects light from said light source.

63. (Previously Presented) The illumination system according to claim 62, wherein said collector and said mirror or lens with said raster element produce said secondary light source.

64. (Previously Presented) The illumination system according to claim 56, wherein said mirror or lens device comprises a first mirror or lens with a multiple number of field honeycombs and a second mirror or lens with a multiple number of pupil honeycombs.

65. (Previously Presented) The illumination system according to claim 64, wherein said field honeycombs are arranged on said first mirror or lens in such a way that they do not overlap and their images cover a surface to be illuminated in said reticule plane.

66. (Previously Presented) The illumination system according to claim 64, wherein said pupil honeycombs are arranged on said second mirror or lens in such a way that their images, which are produced by said optical element, illuminate said exit pupil with a predetermined pattern.

67. (Previously Presented) The illumination system according to claim 66, comprising a light path between a pair of field and pupil honeycombs formed by rotating and tilting said field and said pupil honeycombs relative to one another.

68. (Previously Presented) The illumination system according to claim 56, further comprising a zigzag beam path produced by field and pupil planes.

69. (Previously Presented) The illumination system according to claim 56, wherein said mirror or lens device comprises a telescope system.

70. (Previously Presented) The illumination system according to claim 69, wherein said mirror or lens comprises said raster element, and is one mirror or lens of said telescope system.

71. (Previously Presented) The illumination system according to claim 69, wherein said telescope system comprises a collector mirror or collector lens.

72. (Previously Presented) The illumination system according to claim 71, wherein said telescope system additionally comprises a first mirror or lens with a multiple number of field honeycombs, whereby said collector mirror or said collector lens has positive refractive power.

73. (Previously Presented) The illumination system according to claim 56, wherein said raster element of said mirror is curved.

74. (Previously Presented) The illumination system according to claim 56, wherein said raster element of said mirror has a surface that is arranged on a curved surface.

75. (Previously Presented) The illumination system according to claim 56, wherein said raster element of said mirror is tilted relative to an enveloping or bearing surface.

76. (Previously Presented) The illumination system according to claim 56, wherein said mirror is comprised of at least two raster elements, said at least two raster elements are arranged in rows and each adjacent row is displaced relative to the other adjacent row by a fraction of a length of one of said raster elements.

77. (Previously Presented) The illumination system according to claim 56, wherein said mirror device has an outer axial course of a light bundle that is free of vignetting.

78. (Currently Amended) The illumination system according to claim 56, wherein the illumination system has a field that is ~~a rectangular field or~~ an annular segment.

79. (Currently Amended) The illumination system according to claim 56, further comprising an optical element that has a function selected from the group consisting of imaging a secondary light source in an entrance pupil of a subsequent projection objective, ~~remodeling a pre-given rectangular illumination by raster elements to form a field in a form of an annular segment,~~ adjusting an intensity distribution over said field, and mixtures thereof.

80. (Previously Presented) The illumination system according to claim 56, further comprising an accessible diaphragm plane.

81. (Previously Presented) The illumination system according to claim 80, further comprising a masking device at said diaphragm plane, with which a type of illumination can be adjusted.

82. (Previously Presented) The illumination system according to claim 56, wherein said light source is a synchrotron radiation source.

83. (Previously Presented) EUV projection exposure unit for microlithography with an illumination system according to claim 56 comprising a mask on a carrier system, a projection objective, and a light-sensitive object on a carrier system.

84. (Previously Presented) The EUV projection exposure unit according to claim 83, wherein the unit is a scanning system.

85. (Previously Presented) The EUV projection exposure unit according to claim 83, further comprising a vacuum window transparent to EUV that is arranged in a beam path.

86. (Previously Presented) Process for the production of microelectronic components according to claim 56.

87. (Currently Amended) A process for designing an illumination system for wavelengths $\leq$ 193 nm, said illumination system having:

a light source with any desired illumination in a predetermined surface,

a mirror or lens device having at least two mirrors or lenses, with each mirror or lens organized into a raster element,

an optical element arranged between said mirror or lens device and a reticule plane,

said process comprising the following steps:

arranging said raster element of a first mirror or lens to cover said surface without overlapping;

shaping said raster element of said first mirror or lens such that its form corresponds to that of a field to be illuminated, whereby a secondary light source is assigned to each said raster element;

arranging said raster element of a second mirror or lens to a position at said secondary light source;

shaping said raster element of said second mirror or lens such that its form corresponds to that of said secondary light source;

rotating or tilting said raster elements of said first and second mirrors ~~or orienting and selecting an angle of deflection of a prismatic component of said raster elements of said first or second lens~~, a light path being produced, whereby a predetermined assignment of said raster elements of said first mirror or lens to said second mirror or lens is maintained, so that said raster element of said first mirror or lens is imaged in said reticule plane by said raster element of said second mirror or lens;

an image of said raster element of said first mirror or lens is partially superimposed in said reticule plane; and

said secondary light source is imaged in an exit pupil by said optical element.

88. (Previously Presented) The illumination system according to claim 56, wherein said light source has a plasma source.

89. (Previously Presented) The illumination system according to claim 56, wherein said light source radiates parallel beams.

90. (Previously Presented) The illumination system according to claim 69, wherein said telescope system comprises a first mirror or lens with a multiple number of honeycombs and a second mirror or lens with a multiple number of pupil honeycombs, whereby said first mirror or lens has positive refractive power and said second mirror or lens has power.

91. (Previously Presented) The illumination system according to claim 56, wherein said illumination system comprises at least three mirrors, and wherein at least one mirror has said raster element.

92. (Previously Presented) The illumination system according to claim 56, wherein said illumination system comprises at least four mirrors, and wherein at least two mirrors have said raster elements.

93. (Previously Presented) The illumination system according to claim 56, wherein said raster element has an aspect ratio of about 1:15.

94. (Previously Presented) The illumination system according to claim 56, further comprising a field-side numerical aperture that includes 0.015.

95. (Cancelled)

96. (Currently Amended) An illumination system for wavelengths $\leq$ 193 nm based on radiation from a secondary light source, comprising:

a light source having an illumination in a predetermined surface;

~~a device for the production of a secondary light source;~~

a mirror or lens device having a mirror or lens, which is organized into a raster element;

an optical element, which is arranged between the mirror or lens device and a reticle plane, whereby said optical element illuminates the reticle plane in a superposed manner,

wherein the secondary light source is formed at an exit pupil of the illumination system.